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A NEW METHOD OF COUNTER-TRACTION FOR FRACTURES OF THE RADIUS AND ULNA

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Fractures of the shafts of the radius and ulna require almost perfect reduction if permanent limitation of pronation and supination is to be avoided. After the fracture has been reduced, provision must be made so that the plaster cast can be applied without moving the forearm and allowing displacement of the fragments.

Unless the fractures are transverse and therefore relatively stable, the method of reduction in which two assistants exert traction and counter-traction on the hand and arm respectively is generally unsatisfactory. The fragments are not under full control, owing to the minor tug-of-war that unconsciously occurs—the result of an unsustained force. Furthermore, the application of the plaster cast to the arm is rendered difficult and cannot be efficiently accomplished without interfering with the traction, an event which predisposes to re-displacement of the fragments.

A more satisfactory method of traction and counter-traction consists in passing a sling of calico bandage over a pad of wool in front of the lower arm just above the elbow, and attaching it to a fixed object. Traction is applied by an assistant, who holds the thumb in one hand and fingers in the other, and is maintained while a plaster slab is lightly bandaged to the limb. The slab extends from the metacarpal heads to the shoulder, passes through the loop of calico sling and up the back of the arm. When the plaster has set, the sling is removed and the cast completed by encircling turns of plaster bandage.

With this method, it is not uncommon to find re-displacement of the fragments in control X-rays taken immediately after the plaster has been applied, and it is obvious that this is one of the inevitable results of the release of counter-traction during the application of the plaster.

In an attempt to overcome these difficulties a simple mechanical appliance has been devised to maintain constant traction during the application of the plaster cast and the excellent results obtained warrant a detailed description. Fig. 3 is a diagrammatic representation of the apparatus and Fig. 1 the method of its application.

The Method of Application

With the patient supine on the fracture table, the abducted arm is placed in an aluminium gutter (Fig. 1),

Fig. 1. The abducted arm is placed in the gutter and traction is applied to the thumb and fingers. Plaster bandages are applied, encircling the limb from the metacarpal heads to the axilla and incorporating the gutter. Traction is not released until the plaster cast has set.

and traction exerted on the fingers by an assistant. The long gutter ensures that the pressure exerted on the soft tissues of the arm is even and diffuse, unlike the localized constriction produced by a sling. The fractures having been reduced and checked by X-rays, a circular plaster bandage is applied from the metacarpal heads to the axilla and firmly moulded. Traction is not released until the plaster has set. The fracture is X-rayed again and if the position of the fragments is satisfactory, the gutter is removed as follows. Dismantle the ball-and-socket joint and externally rotate the arm through 90° when the gutter, which follows suit, can readily be removed by drawing it across the front of the chest (Fig. 2). It is obvious that the gutter cannot be removed

Fig. 2. The method of removing the gutter. The ball and socket joint has been dismantled. By externally rotating the abducted arm the gutter, which follows suit, is removed by drawing it across the front of the shoulder and chest.

while the arm is internally rotated, on account of the obstruction encountered by the axilla. Owing to the fact that the gutter conforms to a segment of a cone no difficulty has been encountered in removing it.

The use of the apparatus has not been entirely confined to fractures of the radius and ulna; it has also had a valuable place as a means of counter-traction for numerous Colles', wrist and metacarpal fractures, thus dispensing with an additional assistant. If manual traction to the fingers is replaced by finger traps attached to an appliance in which the tension is controlled by a wingnut screw, the services of an assistant can be entirely dispensed with.

A Description of the Apparatus (Fig. 3)

The gutter (A) is constructed of 18-gauge aluminium; it measures 6 inches in length, 4 inches in width at the axillary end and 3½ inches at the elbow end, and thus conforms to a segment of a cone. The elbow end of the gutter is cut away to accommodate the convexity of the bent elbow. 18-guage aluminium has been selected, because it is strong enough to withstand the force of traction necessary to reduce the fracture, and

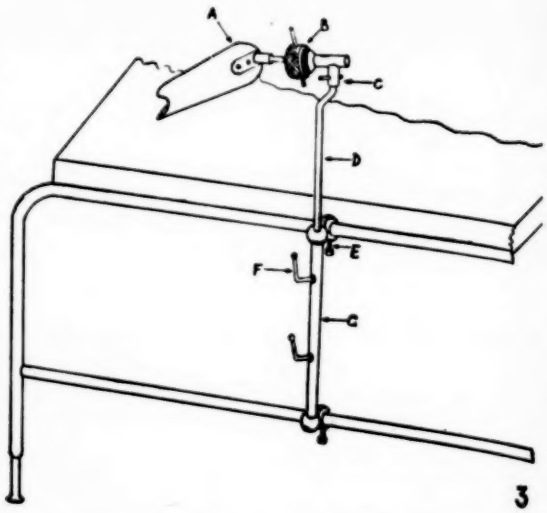

Fig. 3. Schematic representation of the apparatus. (A) Aluminium gutter (18 gauge) shaped to the form of a segment of a cone. (B) Detachable ball-and-socket joint with tension collar. (C) Detachable swivel joint and locking pin. (D) Supporting column offset at base and fitting into the tube (G) which is attached by detachable clamps (E) to the fracture table. (F) Locking screw which allows the column to be locked in a variable vertical position.

at the same time malleable so that it can be moulded to conform to the shape of different arms. Attached to the axillary end of the gutter is a rigid right-angled bracket with one limb extending 1½ inches along the convex side of the gutter and secured by two rivets which are countersunk on the concave side of the gutter. The other limb of the bracket ends in a ball-and-socket joint, which can be dismantled by unscrewing the tension collar (B). The base of the socket is connected to a ⅝-inch steel column (D) which slides in the tube (G) and can be locked in variable vertical positions by two simple locking devices (F). The stem of the supporting column (D) is offset from its long axis so that, by rotation in a horizontal plane, the gutter can be moved towards or away from the anaesthetized patient. The tube (G) containing the column is attached to the longitudinal bars of the Hawley table and secured there by two detachable clamps (E). On loosening the clamps the whole apparatus can be moved cranially or caudally. Thus the gutter has a wide range of mobility and its position can be varied vertically, horizontally and circumferentially by simple adjustments without having to move the anaesthetized patient. For treatment of fractures of the forearm bones of the opposite limb, the ball-and-socket joint with its attached gutter can be rotated through 180° at the swivel joint (C) and locked in position by a tapered pin.

SUMMARY

1. An apparatus for counter-traction in the reduction of fractures of the radius and ulna has been devised,

the use of which allows a plaster cast to be applied quickly and efficiently and to be completed without release of traction, thus reducing the incidence of re-displacement of the fragments.

2. The apparatus is simple in design, portable and easily assembled; and it can be constructed in any hospital workshop.

I am indebted to Prof. W. E. Underwood, Head of the Department of Surgery, for his encouragement and to Mr. J. D. Ball, Senior Orthopaedic Technician, for advice and workshop facilities.

A SIMPLE METHOD FOR LOCALIZING AND REMOVING RADIO-OPAQUE FOREIGN BODIES

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The following method has been used by me for the past 15 years in well over 100 cases and has never yet failed. I have never seen it described or referred to in any of the surgical literature and it has the advantages of ease and accuracy.

The requirements are a sterile tray in the X-ray room containing local anaesthetic, 2 syringes (one 5 c.c. and one 1 or 2 c.c.), 2 needles (one hypodermic, and one intramuscular, 3 or 4 inches in length), some antiseptic paint, and a dish containing a few minims of methylene blue solution.

The affected part, having been cleaned, is screened to localize the foreign body and to decide the site of the skin incision to be made for its subsequent removal. If films have already been taken, this step is unnecessary. The lights of the X-ray room are then switched on and the local anaesthetic is infiltrated into the skin and down towards the foreign body, if necessary. The needle is directed towards the foreign body. The lights having been switched off and the screen switched on, the needle is approximated to the foreign body. Not infrequently it may be felt to touch the foreign body; if not, it is advanced till the point is adjacent to it and the position checked by rotating the limb so that views are obtained in two planes. Then one or two minims of the dye is injected and the needle withdrawn.

There is usually sufficient dye to mark the needle track and the site of skin puncture without injecting a further amount as the needle is withdrawn.

The patient is now taken to the theatre and the operation proceeded with, either under local or general anaesthesia. It should always be done, wherever possible, with a tourniquet in position to provide a bloodless field.

The incision is made centering over the blue point of the needle puncture. The track, and site of deposit of dye adjacent to the foreign body, are easily traced. It is then usually a simple matter to find and remove the foreign body. It will be more difficult if too much dye has been injected so that it has spread widely in the tissues. The wound is loosely sutured and antibiotics administered.

This method is of course unnecessary where the foreign body can be felt, or where there is an abscess round a foreign body, as incision of the abscess usually reveals the foreign body lying with it.

The method was first thought of and used in 1940 in a war casualty with a piece of shrapnel in the lower end of the femur. This had entered on the medial side of the thigh and X-ray showed it lying beneath the cortex of the femur on the outer side, and just above the femoral condyle. The point of a long needle was placed on the outer aspect of the femur directly opposite the foreign body and the dye injected here subperiosteally. At the operation a hole in the cortex of the femur needed to be made only just large enough to extract the foreign body.

By this method a minute metallic foreign body has been removed from the median nerve in the arm, which had been producing pain and paraesthesiae down into the hand; also foreign bodies in the buttock, and deep in the palm. In many of these cases previous attempts at removal had been made, either immediately or some time previously.

No trouble has been encountered from the use of the dye, which is absorbed in a few days.

SUMMARY

An easy and exact method of radiological localization of radio-opaque foreign bodies is described wherein dye is deposited at the site of the foreign body so that its situation may easily be recognized at operation.

UNION DEPARTMENT OF HEALTH BULLETIN

Union Department of Health Bulletin. Report for the 7 days ended 5 May 1955.

Plague, Smallpox: Nil.

Typhus Fever, Cape Province: One (1) Native case in the Xalanga Magisterial district. Diagnosis confirmed by laboratory test.

No further cases have been reported from the East London Municipal Area since the notification of 4 April 1955. This area is now regarded as free from infection.

Epidemic Diseases in other Countries:

Plague: Nil.

Cholera in Calcutta (India); Chalna, Dacca (Pakistan).

Smallpox in Kabul (Afghanistan); Kyaukpyu, Moulmein, Rangoon (Burma); Phnom-Penh (Cambodia); Ahmedabad, Allahabad, Bombay, Calcutta, Cannanore, Delhi, Jodhpur, Kanpur, Lucknow, Madras, Tellicherry (India); Dacca, Karachi, Lahore (Pakistan); Phanthiet, Saigon-Cholon, Tourane (Viêt-Nam); Tanga (Tanganyika).

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EDITORIAL

HYPOGLYCAEMIA

There are many diseases in which hypoglycaemia and its concomitant symptoms occur. While many of the causes are organic (endocrine, hepatic or nervous) the condition may sometimes be functional or idiopathic in nature. Hypoglycaemia can also of course be readily produced by certain drugs, the best known of which is insulin, but that type of hypoglycaemia is outside the purview of this article.

The syndrome was first described in 1924, and four criteria are recognized as characteristic: gastro-intestinal symptoms and symptoms referable to the central nervous system; fasting blood sugar less than 50 mg. per 100 ml., or very low post-absorptive blood-sugar levels; rapid relief of symptoms from the administration of sugar; and a characteristic abnormal electro-encephalogram which reverts to normal when sugar is administered.[1]

The blood-sugar level is the resultant of many factors which are involved in carbohydrate metabolism, and are mainly dependent on the liver and on endocrine substances. There are therefore disorders of several kinds which may lead to a state of hypoglycaemia:

The withdrawal of corticotrophin (ACTH) and cortisone after their prolonged use may lead to hypoglycaemic states from the action of the excess of insulin which was previously necessary to deal with the raised blood sugar. The hypoglycaemia in myxoedema may be due to inadequate absorption of food materials from the intestine. The lowest blood-sugar level in liver disease occurs after the long night-fast.

The cause-and-effect relationship between hyperinsulinism and the hypoglycaemic syndrome is well shown in adenoma or adenocarcinoma of the pancreatic islet-cells. Adenomas of the islet-cells do not however always produce symptoms, and are often found by chance at autopsy. It may be difficult to demonstrate them, especially when they lie deeply within the head of the pancreas; they may be very small, but size is not directly related to their ability to produce symptoms.

In idiopathic or functional hypoglycaemia there is excessive functional sensitivity and excessive response of the apparently normal islet-cells to stimuli which normally cause the secretion of insulin; pathological changes no doubt exist but these have not yet been demonstrated anatomically.

VAN DIE REDAKSIE

BLOEDSUIKERGEBREK

Bloedsuikergebrek en die simptome wat daarmee saamgaan word by baie siektes aangetref. Terwyl baie van die oorsake organies is (buislose klier-, lewer- of senuwee-) is die toestand somtyds funksioneel of idiopaties van aard. Deur sekere middels te gebruik, waarvan insulien die bekendste is, kan bloedsuikergebrek maklik verkry word. Dié tipe bloedsuikergebrek word egter nie in hierdie artikel behandel nie.

Die sindroom was vir die eerste keer in 1924 beskrywe en 4 kriteria word as kentekenend aanvaar; maagdermontstekingsimptome en simptome wat op die sentrale senuweestelsel betrekking het; bloedsuiker minder as 50 mg. per 100 ml. as daar gevas word of 'n baie lae bloedsuikerpeil ná kos absorbeer is; spoedige verligting van simptome nadat suiker toegedien word; 'n kenmerkend abnormale electro-encephalogram wat weer normaal word sodra suiker toegedien word.[1]

Die bloedsuikerhoogte word bepaal deur baie faktore wat in die koolhidraat-stofwisseling betrokke is en wat hoofsaaklik van die lewer en buislose klierstowwe afhang. Bloedsuikergebrek kan dus die gevolg van verskillende kwale wees.

As corticotrophin (ACTH) en cortisone weggeneem word, nadat dit vir 'n lang tyd gebruik is, kan dit 'n bloedsuikergebrek veroorsaak wat te wyte is aan die oormaat insulien wat voorheen nodig was om toename in bloedsuiker te bestry. Die bloedsuikergebrek in miksodeem mag aan ondoeltreffende opname van kosstowwe uit die derm te wyte wees. Die laagste bloedsuikerhoogte word by lewerkwale gevind ná die lang nagtelike vas.

Die oorsaak-en-gevolg-verhouding tussen hiperinsulienisme en die hipogliseemsindroom kan duidelik gesien word in adenoma of adenocarcinoma van die eiland-selle van die pankreas. Adenomas van die eiland-selle produseer nie altyd simptome nie en hul word dikwels net toevallig by 'n lykskouing gevind; dit mag moeilik wees om hul te demonstreer veral as hul diep binne die kop van die pankreas geleë is; hul mag baie klein wees maar hul grootte bepaal nie regstreeks die vermoë om simptome te veroorsaak nie.

In idiopatiese of funksionele bloedsuikergebrek is daar oordrewe funksionele sensitiviteit asook uitermatige reaksie van die oënskynlik normale eiland-selle tot die gewone insulienafskeiding-stimuli; patologiese veran-

The majority of symptoms associated with hypoglycaemia are neurological, which is understandable since the activity of the adult brain is almost wholly dependent on the oxidation of glucose. The oxygen consumption of the brain can be accounted for entirely by the oxidation of glucose. Brain metabolism is decreased when there is lack of glucose, as shown by a decrease in the arterio-venous oxygen difference. Cerebral anoxia is probably the immediate factor responsible for hypoglycaemic symptoms, and failure of blood sugar to be absorbed by the brain may be a cause of prolonged shock. Severe and prolonged hypoglycaemia may produce permanent damage in the brain from oedema and haemorrhages and from necrosis of the cortex.

Many of the symptoms of hypoglycaemia are well known; it should however be realized that almost every neurological symptom has been noted in this syndrome. Examination of the cerebrospinal fluid may show normal or even raised sugar levels, the explanation of which appears to be that it is not the level itself of blood sugar but the rapidity of the fall in blood sugar that produces symptoms. Hypoglycaemic symptoms develop in different patients at different blood-sugar levels.

Certain tests are available to assist in the diagnosis of the causes of hypoglycaemia; these, together with detailed consideration of various aspects of the syndrome, are discussed in Kornfeld's article which we have quoted.

1. Kornfeld, P. (1955): J. Mt. Sin. Hosp., **21**, 321.

derings vind ongetwyfeld plaas maar hul is nog nie anatomies gedemonstreer nie.

Die meerderheid van die simptome wat met bloedsuikergebrek geassosieer is, is neurologies. Dit is te verstaan aangesien die aktiwiteit van die volwasse brein geheel en al van die oksidasie van glukose afhang. As daar 'n glukosegebrek is neem die breinmetabolisme af soos bewys word deur 'n vermindering in die verskil in die suurstofinhoud van die slagare en are. Harsingsuurstofgebrek is waarskynlik die faktor wat vir die onmiddellike bloedsuikergebreksimptome verantwoordelik is en as bloedsuiker nie deur die brein absorbeer word nie kan dit 'n skok veroorsaak wat lank duur. Ernstige en langdurige bloedsuikergebrek kan die brein permanent beskadig as gevolg van edeem en bloeding en van nekrose van die skors.

Baie van die simptome van bloedsuikergebrek is welbekend; dit moet egter in gedagte gehou word dat feitlik elke neurologiese simptoom al in hierdie sindroom bespeur is. Ondersoek van die harsing en rugmurgvloeistof kan normale of selfs hoë suikerhoogtes toon; die verduideliking hieroor blyk te wees dat dit nie die bloedsuikerpeil is wat die simptome veroorsaak nie maar die snelheid waarmee die bloedsuiker daal. Bloedsuikergebreksimptome ontwikkel by verskillende pasiënte op verskillende bloedsuiker-hoogtes.

Sekere toetse is beskikbaar om met die diagnose van die oorsake van bloedsuikergebrek te help; dit sowel as verskeie aspekte word tot in fyn besonderhede deur Kornfeld in die aangehaalde artikel bespreek.

1. Kornfeld, P. (1955): J. Mt. Sin. Hosp., **21**, 321.

ADRENOCORTICAL HYPERFUNCTION

1. GLUCOCORTICOIDS AND CUSHING'S SYNDROME

There has long seemed something mysterious about the endocrine glands, and certainly they have frequently been blamed for what was not their error (e.g. 'pituitary obesity') and used for treatment in circumstances in which they were useless (e.g. cock's testes for impotence) or even dangerous (e.g. thyroid for obesity). The use of potent endocrine preparations is properly becoming more and more restricted to specific disorders, although new and unexpected uses are continually being found for them (as oestrogens for post-menopausal osteoporosis, thyroid for hypertension, and oestrogens for haemorrhagic telangiectasia—though the latter two uses are hardly fully established). The adrenal cortices, however, are different. They really are mysterious. The hormones which they produce are essential for life by reason of their physiological actions. Yet by quite different effects they are known to be some of the most potent of all pharmacological agents and may even be life-saving in diseases which seem to have no possible relation to the ductless glands (e.g. pemphigus).

The hormones secreted by the adrenal cortex include, first, the glucocorticoids, especially hydrocortisone (previously 'compound F' and better called 'cortisol'). Physiological increase in production of this hormone occurs in pregnancy and states of 'stress' (such as infections, anaesthesia, exposure to cold, or rowing in a boat race). Pathological increase occurs in Cushing's syndrome. The study of this syndrome is fascinating; it gives rise to such varied effects as amenorrhoea, sterility, stoppage of growth, weakness with muscular atrophy, osteoporosis and spinal collapse, obesity with buffalo-hump and moon-face, atrophy of skin with purple striae, diabetes, mental disturbances, hypertension leading to uraemia, polycythaemia, and growth of hair on the face. Every one of these symptoms has been artificially produced by cortisol given therapeutically or experimentally and there is no doubt that the whole syndrome is caused by excess of glucocorticoid secretion. All but the last three symptoms are explicable on the basis of the anti-anabolic effect of cortisol (i.e. its prevention of tissue-building)—but how facial hair, polycythaemia and hypertension are caused by glucocorticoids is not clear.

The diagnosis of Cushing's syndrome may take one second's glance or may be very difficult. Laboratory investigations may show a mild hypokalaemic hyperchloraemic alkalosis, with absolute lymphopenia and eosinopenia, but these data are not reliable. The most important figures are the quantities of cortisol in the plasma and urine, or 17-hydroxycorticoid levels, but so far a good, simple method of estimation does not exist—chemistry and chromatography are battling for

pride of place. A photograph of the patient before she was ill is very helpful—the present compulsory photography of the population may be useful to the physician in a few years' time!

The adrenals responsible for Cushing's syndrome may be the site of an adenoma, a carcinoma or bilateral hyperplasia. When an adenoma or hyperplasia is present the syndrome is usually 'pure'—i.e. there is no virilization. With carcinoma, and sometimes with hyperplasia, there may be an over-production of androgens with varying degree of virilization (i.e. a mixed Cushing's and adrenogenital syndrome in the female). It would be satisfying to assume that the cases of bilateral hyperplasia are primarily pituitary in origin, with excessive production of ACTH and excessive stimulation of the adrenal cortices, but unfortunately this is by no means proven. The old idea of a basophil adenoma is certainly not correct, and no uniform abnormality can be found in the pituitary of Cushing's syndrome, nor indeed does the pituitary in cases of adrenal hyperplasia differ from the pituitary where adrenal tumour is present. For the moment the syndrome is best considered as primarily adrenal in all cases (we must remember for comparison those cases of hyperparathyroidism with hypertrophy of all 4 parathyroids).

On the other hand Cushing's syndrome is apparently being tackled successfully by hypophysectomy as an alternative to adrenalectomy, while X-irradiation of the pituitary is certainly satisfactory in some cases. Most centres, however, prefer adrenalectomy—excision of a tumour if present, bilateral subtotal adrenalectomy if hyperplasia is found. Before operation it is very difficult to establish what condition is present or, if a tumour, which side is affected. Intravenous pyelograms and perirenal air-insufflation are usually equivocal.

A very high urinary output of 17-ketosteroid (over 40 mg. per day) indicates carcinoma; a normal or low one is more frequently found in adenoma, with moderate increase in hyperplasia—but these are not constant. Newer tests include the effects of ACTH infusion (which may raise the steroid levels still higher in hyperplasia) and cortisol infusion (which may lower the excretion of 17-ketosteroid in hyperplasia), but these are still highly experimental. The plasma level of ACTH should also be of value when it can be satisfactorily measured.

At the present time the method usually adopted is to choose one side and 'have a look': if the adrenal is atrophic, then there will be a tumour on the opposite side, which is explored—if the adrenal is hyperplastic either the whole or seven-eighths of it is removed, and the other gland is removed later. The performance of a total bilateral adrenalectomy is not unreasonable in view of the ease of control of the Addisonian state, but about one-eighth of one gland is usually left behind. For removal of a tumour (where the rest of the adrenal tissue is atrophic) or for the second stage of a subtotal adrenalectomy the patient is carefully 'covered' with cortisol to prevent Addisonian crisis. Even with this precaution severe hypotensive reactions are to be expected after operation.

MODIFIED RADICAL GASTRECTOMY FOR CANCER OF THE STOMACH

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Until a better method of therapy becomes available, surgery is still the best treatment we can offer for carcinoma of the stomach. While the results with this treatment may not be a source of pride to surgeons, there is a certain proportion of cases in whom 5-year cures are obtainable.

In an effort to improve the number of cures, wider and wider methods of excision have been advocated until, within the last few years, total gastrectomy as a routine operation has been advocated and practised by some schools. The usual surgical operation for carcinoma of any viscus is planned with the developmental anatomy of the organ in mind. In cancer of the stomach, however, the embryological point of view is not usually considered. Anatomically the stomach appears to be suspended by the lesser and greater omenta and extra efforts are usually directed towards removing as much of these structures as possible under the impression that within them run the major lymphatic channels from the stomach. A consideration of the embryology will show that this is probably incorrect.

The immediate effect of total gastrectomy has been to increase the operative mortality significantly, whereas a significant rise in the number of eventual cures has not been produced (Marshall and Uram, 1954). In addition, it left the patients in an a-gastric state and many required a considerable time to adjust themselves to their new status.

Analysis of survival times of patients who have recovered after partial gastrectomy for carcinoma shows that the average duration of life after operation was about 20 months (McNeer *et al*, 1951). It seems unreasonable to spend too many of these hard-won months in adjustment. After a partial gastrectomy, independent of the size of the gastric pouch, the patient settles down very quickly and is able to return to normal work in about 6 weeks. He puts on weight and improves generally, and this is maintained until a few weeks before death. Death is usually painless and is due to liver secondaries and hepatic failure with or without ascites.

In addition, leaving a small gastric remnant avoids a thoraco-abdominal operation—a considerable strain on a debilitated patient and a fertile source of early post-operative deaths—and permits a safe and solid anastomosis.

It was shown by McNeer *et al*. that about 60% of

recurrences occur at the transected part of the gastro-intestinal tract. One cannot doubt that a proportion of these cases might have been saved by wider local resection. If this wider resection were uniformly employed in carcinoma-gastrectomy a marked improvement in the results could be anticipated.

With these aims in view, an operation is here described which takes into account the development of the stomach and allows a total gastrectomy or an oesophago-gastrectomy to be performed if this is thought necessary. It utilizes the abdominal approach, which is modified by removal of the xiphoid process, and it is designed to take most of the gastric bed away in continuity with the stomach and its draining glands.

DISCUSSION

The development of the foregut differs from that of the hind-gut and the mid-gut in that it possesses a ventral as well as a dorsal mesentery (Figs. 1 and 2). In the dorsal mesogastrium the spleen appears, and divides it into 2 portions which become the gastro-splenic and the

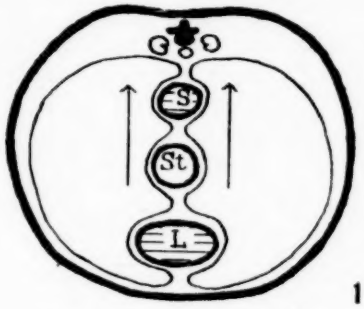

Fig. 1. Transverse section of embryo to show (diagramatically) an early stage in the development of the foregut. Arrows indicate direction of lymphatic flow.
S=spleen, St=stomach, L=liver.

lieno-renal ligaments respectively. The greater omentum develops from the dorsal mesentery and the greater curvature of the stomach constitutes this organ's primitive dorsal border. At the caudal end of the foregut the two buds of the pancreas appear. The blood supply of this organ arises partly from the superior mesenteric artery and this indicates that it originates near the midgut. The upper border of this organ can thus, for practical purposes be considered to be the caudal end of the wedge-shaped dorsal mesogastrium; the septum transversum, later the diaphragm, is of course, its cranial limit.

All the blood supply of the gut reaches it through its dorsal mesentery and the lymphatic drainage follows the blood supply. It can be justifiably presumed that the main lymphatic drainage from the stomach must pass along the dorsal mesogastrium. This structure is the anlage of the lieno-renal ligament, the spleen, the gastro-splenic ligament, the posterior wall of the lesser sac, the upper peritoneal surface of most of the transverse mesocolon, and the greater omentum. An operation which leaves behind any substantial portion of the dorsal

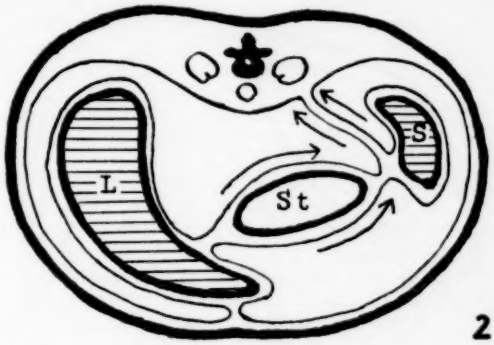

Fig. 2. Transverse section of embryo to show a later stage in the development of the foregut (diagramatic). Arrows indicate direction of lymphatic flow.

mesogastrium, cannot be considered to be radical surgery for carcinoma of the stomach.

In neoplasms of the small or large bowel, removal of a suitable and extensive wedge of mesentery, with its vascular and lymphatic drainage, is a *sine qua non* of adequate carcinoma surgery. It is only when the primitive rotation of the stomach has been corrected that one is able to assess the position and to realize the inadequate nature of our usual type of operation (Figs. 3, 4, 5 and 6). When this is done it also becomes clear that the distance between the surgically inviolable aortic glands and the body of the stomach is usually little more than one inch. Carcinoma spreading by direct extension has only this short distance to traverse for the case to become hopeless from the point of view of radical cure.

It is therefore not surprising that the incidence of cure in gastric carcinoma remains disappointingly low, since not only does the operation usually performed remove only a minor portion of the dorsal mesentery of the stomach but there is, in addition, the anatomical handicap of the very short distance between a primary and its irremovable glands.

It is generally accepted that retaining a small fringe of stomach at the cardiac end will permit an easier anastomosis through an entirely abdominal approach. Convalescence is almost indistinguishable in its smoothness from that following ulcer-gastrectomy. Since many gastric neoplasms permit of such a resection, the operation suggested here is applicable to a great number of cases. Where the growth has extended towards the cardia to such an extent as to prevent the retention of a fringe of gastric mucosa, the oesophagus can be mobilized, and an oesophago-jejunal anastomosis is done with a total gastrectomy. Only in those few cases where the neoplasm originates in the lower oesophagus, or at the oesophago-gastric junction itself, may the thoraco-abdominal approach be necessary.

Although leaving a gastric fringe violates the principle of removing the diseased organ completely, the gain in the reduced immediate mortality and the rapid convalescence outweigh the probable increased chances of a recurrence. In short, it is proposed to exchange the immediate better results of a slightly less radical opera-

Fig. 3. Schematic sagittal section of embryo to show the foregut and the dorsal mesogastrium. The dotted line indicates the limits of the usual resection for cancer of the stomach. P=pancreas.

Fig. 4. As above; the dotted line indicates the scope of the proposed 'Modified Radical Gastrectomy'.

tion for the undoubtedly worse immediate effects with problematical remote improvements resulting from a more extensive procedure.

Obviously the problem can be settled only by trial. If we can show an increased proportion of successes and a more comfortable survival time for a greater percentage of our resections, this operation is justified.

Where there has been extension of the growth to adjacent organs, is the condition hopeless? Certain facts seem to indicate that it is not quite hopeless. Thus when the growth has spread onto the peritoneal surface of the stomach, analysis has shown that about the same survival times, and about the same proportion of 5-year cures are obtained (Pack and McNeer, 1948).

Again, adhesion of the growth to adjacent viscera is often due to inflammation because a zone of inflammation precedes the spread of carcinoma, and in many cases the primary can be peeled off the liver or the transverse mesocolon through this inflammatory zone.

When separation through the inflammatory zone is not possible, resection of the left lobe of the liver, of the transverse colon and of the transverse mesocolon can be performed without adding very much to the difficulty of the operation. Pack (1951) has noted that 'it is a striking fact that where the surgeon is forced to perform a radical local excision, owing to invasion of adjacent organs, his results have been surprisingly improved.' This too has been our experience, and we have not noticed any difference in the comfort or behaviour of patients when the abdominal wall or viscera

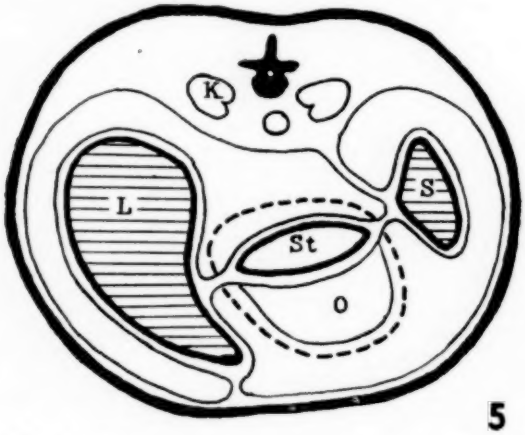

Fig. 5. Schematic transverse section of embryo to show within the dotted lines the limits of the usual resection for cancer of the stomach. K=kidney, o=omentum.

Fig. 6. As above; the dotted line indicates diagramatically the scope of the proposed 'Modified Radical Gastrectomy'.

adjacent to the stomach have been simultaneously removed.

Where does 'resectability' end? The answer to this is a purely personal one and it is necessary that we should clarify our own position. We feel that a large quantity of ascitic fluid, diffuse secondary metastases of the liver and peritoneum, or adhesions of the primary to the aorta or vena cava are contra-indications to anything except purely palliative procedures. Irremovable involved glands, or a few secondaries in the pelvis or liver, do not justify giving up hope. The adequate removal of the primary has occasionally, in our own experience, enabled obviously involved glands to be controlled by some natural process whose mechanism we do not as yet understand. It is the hope for such an occasional case of cure or natural arrest that encourages one to continue doing radical removals in border-line cases.

Local extension of the primary growth to the root of the mesentery and around the superior mesenteric vessels has been our major source of difficulty. Sometimes the vessel may be felt pulsating in a secondary mass of glands and these latter can then be subdivided and transected and the primary freed. It has rarely been necessary to abandon the more radical procedure, because we have cut across carcinoma tissue freely once the vessels have been identified. While this cutting across of carcinoma tissue is repugnant to the pathologically minded operator, the palliation has not been any the less effective. One feels that 2 or 3 hours' hard work is a small price to pay for at least 6 months relief, and this belief has, in general, been our guide.

OPERATIVE TECHNIQUE

The abdomen is opened by a mid-line incision which extends from the xiphisternum to an inch below the umbilicus. The smaller incision, through which an ulcer-gastrectomy can be so readily performed, is not advised. The peritoneum is opened and the position assessed. In uncomplicated cases the first step is to mobilize the greater omentum by detaching it from its almost adventitious attachment to the transverse colon. This can be practically bloodless and should extend from the hepatic to the splenic flexure. The detachment is commenced at the hepatic flexure, and the lesser sac is thus entered from the right and after the root of the transverse mesocolon is exposed; the anterior surfaces of the pancreas and of the duodenum are exposed before the lesser sac is opened. In this way that part of the transverse mesocolon which has developed embryologically from the greater omentum is stripped up and left attached to the greater omentum and the stomach. The lesser sac is then entered and the duodenum mobilized; at this time any sub-pyloric glands which are encountered are removed in continuity. After the peritoneal reflection from pancreas to duodenum is divided, and the vessels crossing this reflection have been severed, the upper border of the duodenum is mobilized. At that point there are several supra-pyloric glands which should be included in the procedure as the lesser omentum is stripped down. The right gastric artery is caught and divided. A deliberate incision through the peritoneum is now made to the right of the convexity of the duodenum and this enables one, in the majority of cases, to free its upper and outer borders and to lift this organ with the common bile-duct and the head of the pancreas well out on to the surface of the abdomen.

After the bile-duct is carefully visualized, the duodenum is divided at the junction of its horizontal and vertical portion, i.e. between the 1st and 2nd part and its distal part and closed deliberately with 3 layers of sutures. The splenic flexure is now drawn inwards and downwards after an incision is made in the peritoneum on its lateral and superior borders. The splenic flexure and the transverse colon are stripped downwards away from the spleen, and are excluded from the field with a moistened pad.

The xiphoid process is removed. By doing this, the anterior attachments of the diaphragm to the posterior surface of the xiphoid are separated so that the diaphragm and sub-diaphragmatic organs fall away dramatically from the anterior abdominal wall (Saint and Braslow, 1953). The spleen is brought into the wound and mobilized by incising the peritoneum on its left border. The division of the lieno-renal ligament and the phrenico-splenic ligaments enables one to sweep the spleen towards the right. At the same time the hand enters easily into that anatomical layer which lies anterior to the aorta and vena cava and sweeps the spleen, the tail of the pancreas, the splenic pedicle and the lesser sac off the posterior abdominal wall. This is the 'manoeuvre of Gomez and Gomez' and has been adequately described by Torrents (1953). The suspensory ligament of liver is divided and the left lobe of the liver drawn away from its normal position in front of the oesophageal orifice. If necessary, the peritoneum over the lower oesophagus can be divided anteriorly and posteriorly and, by careful stripping, up to 4 inches of oesophagus can be drawn down into the abdomen. The deliberate division of the two vagi permits the oesophagus to come down very freely. The left gastric artery is now caught close to its origin; in many instances there is heavy infiltration of the para-cardial and left gastric glands by neoplasm, but the artery is carefully secured with double non-absorbable ligatures and divided. The splenic artery and vein are cut and divided some distance from the hilum of the spleen and the peritoneum in front of the tail of the pancreas stripped off so that the pancreas is allowed to fall back on to the posterior abdominal wall, while most of its peritoneal surface—anatomically part of the posterior wall of the lesser sac—is stripped off with the stomach.

The remaining attachment of the stomach is to the oesophagus, and its blood supply comes from the oesophageal vessels. The stomach is divided about 1 inch below the oesophagus and the mass of tissue, consisting of the major part of the stomach, the first part of the duodenum, the greater and lesser omenta, the spleen, and if necessary, the body and tail of the pancreas, are resected and removed. Posteriorly, the left kidney and the left adrenal are visible. An ante-colic anastomosis is made between the first loop of the jejunum and the gastric stump. It may occasionally be necessary to divide one or two vascular arcades to lengthen the loop of jejunum in order to relax the line of suture.

No attempt should be made to close the posterior peritoneum post-operatively, but a tube should be left in the abdomen to deal with any ooze that may come from the large raw bed in the posterior peritoneum. The abdomen is then closed.

Although this operation is an extensive one, the post-operative course shows surprisingly little difference from that of an ordinary ulcer-gastrectomy. Patients often develop a positive gastric balance within 36 hours and are out of bed on the third day. Since there has been no interference with the thorax, and the diaphragm has not been incised, thoracic complications do not affect the convalescence.

CONCLUSION

The complete removal of the lymphatic drainage of so complicated an organ as the stomach cannot be undertaken without a clear understanding of the embryological issues involved. When the dorsal mesogastrium and its complicated folds are considered, many apparently contradictory findings and opinions fall neatly into line and are explainable on embryological grounds. Thus the unexpected finding noted above that the results have been improved when the growth has spread on to the adjacent viscera, compelling the surgeon to resect the transverse colon and mesocolon in continuity (Pack, 1951), can be readily explained on the basis that more of the mesogastrium has had to be removed. The observation that 50% of lymph glands in the hilum of the spleen show early involvement in carcinoma of the stomach (McNeer *et al*, 1955) is a clear indication of the persistent importance of the primitive lymph channels.

It may well be that the lack of awareness of the embryological issues involved is responsible for much of the disappointment that has followed the introduction of total gastrectomy. Any operation which relies on more and more extensive local removals of a primary malignancy without taking its lymphatic drainage into consideration is doomed to fail. The literature is full of examples of suggestions for taking bigger or smaller portions of the stomach away (Donald and Donald, 1951) but an editorial comment that 'even extensive excisions which include much of the lymphatic field and the parietal peritoneum, spleen and pancreas may not succeed' (Lancet, 1955) is an outlook that may well be too gloomy; to date it has not been tried out.

It is submitted that this 'Modified Radical Gastrectomy' should be adopted as a routine procedure in those cases of cancer of the stomach where the operation is feasible. With this in mind, the subject was introduced at a meeting of the surgical staff of the Groote Schuur Hospital in October, 1954. After discussion, many of those present agreed to try it out and to report on the follow-up results of the cases. It is therefore only possible to present the immediate post-operative results of some of the first few cases. These seem to show that while the operation can be carried out with no higher mortality than that following the usual carcinoma gastrectomy, the post-operative convalescence has been as smooth as that of ulcer gastrectomy. The operation, however, takes a little longer time to perform, but it is hoped that increasing experience will overcome this handicap. It will be some time before the long-term results begin to come in. Until then, one can be fortified with the knowledge that a more radical and perhaps a more logical operation is being performed.

CASE RECORDS

1. A.A., Coloured female, aet. 55. Operated on 20 August 1954 for pyloric carcinoma, and the 'Modified Radical Gastrectomy' was performed, with removal of the transverse colon and mesocolon, which were invaded by the tumour. Suction and drip removed on the 2nd day, up on the 4th day, and was discharged on 5 September (15th day).
Pathological Report: Adenocarcinoma. Glands not involved.

2. A.A., Coloured male, aet. 44. On 26 October 1954 the 'Modified Radical Gastrectomy' was performed for carcinoma of the greater curvature. On the 3rd day suction and intravenous were discontinued and on the 6th the patient, who by then was ambulant, overate to such an extent that he required to be placed on suction for 2 more days. He then rapidly recovered his gastric tone and was discharged on 11 November (16th day).
Pathological Report: Adenocarcinoma. Glands not involved.

3. E.M., Coloured female, aet. 69. Operated on 9 November 1954 for carcinoma of the greater curvature 5 cm. in diameter. Massively enlarged retro-peritoneal glands found, which were removed in continuity in the 'Modified Radical Gastrectomy'. On the 2nd day gastric balance was positive and the drip and suction were removed, and on the 6th day she was up and about the ward. The patient was discharged on 9 December after a relatively slow convalescence, which was complicated by her falling in the bathroom and injuring her head on the 8th post-operative day.
Pathological Report: Anaplastic carcinoma. Glands not involved.

4. S.C., European male, aet. 77. Operated on 15 November 1954. Prepyloric carcinoma 9 cm. in diameter involving the pyloric canal was found. The 'Modified Radical Gastrectomy' was performed, removing the spleen, the tail of pancreas, and transverse mesocolon. It was not necessary to remove the transverse colon. Drip and suction were discontinued within 36 hours and the patient was out of bed on the 4th post-operative day and was discharged eating frequent small meals on the 14th post-operative day.
Pathological Report: Spheroidal-cell carcinoma. Glands invaded. Pancreas not involved.

5. H.T., European male, aet. 69. Operated on 7 January 1955 for a lesser-curve carcinoma extending to within 2 inches of the oesophagus. The 'Modified Radical Gastrectomy' was performed Drip and suction came off after 2 days. Ambulant on the 5th day and discharged on the 10th post-operative day.
Pathological Report: Reticulum-celled sarcoma.

6. N.v.Z., European female, aet. 77. Operated on 1 February 1955 for carcinoma of the stomach. The 'Modified Radical Gastrectomy' was performed. Drip and suction removed on the 4th post-operative day. Convalescence was complicated by a transient (?) deep-veined thrombosis of the right calf. Discharged on the 12th post-operative day.
Pathological Report: Anaplastic carcinoma. Glands involved.

SUMMARY

1. The development of the stomach and its mesenteries is outlined.

2. Based on this description a 'Modified Radical Gastrectomy' is proposed for carcinoma of the stomach.

3. The technique of the operation is described.

4. An embryological explanation is suggested for some of the apparently anomalous facts observed in the spread of gastric carcinoma.

It is with particular pleasure that I acknowledge the debt that I owe to my old friend and teacher, Prof. M. R. Drennan, of the Department of Anatomy, University of Cape Town, who helped me with the diagrams used in this paper and under whose meticu-

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SOME SOCIAL ASPECTS OF PAEDIATRICS*

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In his Lloyd Roberts lecture for 1948 Titmuss [1] stated that 'in medicine and in education too, the trend of thought to-day is looking away from egocentricity and towards sociality, towards considering the individual as a social being; to thinking of him as a member of a family, a group, living in a particular environment, and working in a particular setting'.

In medicine, the paediatricians were among the first to recognize the importance of the social environment in the development of the healthy individual, and in the pathogenesis of his diseases.

THE CHILD IN SOCIETY

There are many species apart from man which are socially organized. Perhaps the best examples are the social insects such as ants, and bees whose co-operative forms of life have often been compared with human societies. The essential difference is that in these non-human social groups the pattern of behaviour is entirely instinctive. Man's way of life on the other hand is conditioned by his culture, which is the accumulation of learned behaviour and is not biologically transmitted. In the words of Aldrich,[2] 'the active world of baby care into which (the infant) will be plunged is the accumulated result of folk lore and tradition somewhat modified by scientific thought'.

Plant [3] describes every child as 'an actor in a play; each phrase or deed is understood only as a part of his total role, and that role is meaningless except as a part of the total drama. This role was pressed into his tiny hands long before he stepped upon the stage. Months before he was born, parents, relatives and neighbours "hoped it would be a boy" or "hoped it would be a girl"—lacking the courtesy to wait upon his arrival before deciding the part he must play. Indeed his role goes further back to the dreams, the tragedies, the triumphs of the early years of his parents. Who of us has not mended the disappointments of youth and adulthood with the promise that his child "will live it differently"? The role he is to play is often cast down to the last dotting of the "i" or crossing of the "t".'

The human infant has two outstanding biological characteristics which distinguish him from the young of other species, and render him extremely sensitive to his social environment. These two attributes are the complete helplessness of the infant at birth and his consequent slow maturation, and secondly his remarkable plasticity which gives him his incomparable capacity for learning. 'From all we can learn of the history of intelligence in pre-human as well as human societies, this plasticity has been the soil in which human progress began and in which it has maintained itself'.[4]

From the moment of conception, the life of the embryo unfolds itself in close relationship with the mother. In the shelter of her womb he is protected from the outside world, and he is completely dependent on her for his nourishment and growth. The mother's health is the most important factor on which the survival and well-being of the foetus depends. Her nutritional state has been shown to influence his health and vigour at birth and later.[5–8] Certain illnesses during pregnancy may result in stillbirth, premature delivery or mal-development of the child.

In the neo-natal period the infant has to adjust from an intra-uterine to an extra-uterine existence. That this is a difficult period can be seen by the fact that even today neonatal mortality and morbidity are high, and cannot be reduced as readily as infant mortality occurring after the 1st month. As the baby grows his personality develops. At first he is unaware of his existence as an individual and expresses all his needs, whether due to hunger, loneliness, discomfort etc., in the same way—by the cry. The mother has to interpret his cry and minister to his needs with great understanding.

It is interesting that the first active social trait the child displays is the smile, which starts at 4-6 weeks of age. From this time he begins to be aware of his mother, listening to her voice, following her movements with his eyes and gradually becoming interested in his surroundings. His interests and functions now have a strong social meaning, for himself and for his mother. Spence [9]

* Based on a lecture given to the Cape Town Paediatric Sub-Group.

describes this well in his account of the feeding situation, thus: The infant's 'emotional capacity is encouraged in manifold exercises by which the mother praises or chides, approves or disapproves, using gestures and sounds which are the universal language of all races. This relationship and encouragement are at their best if the mother is breast-feeding the child'.

As the child passes from infancy into the pre-school stage his human and physical horizons widen and he becomes aware of a rapidly enlarging world. Communication becomes more precise through the medium of speech. His early behaviour patterns are influenced by the practice and precept of others in the family. Slowly and painfully he learns to cooperate with others, to share his possessions and to control his impulses. As a result of his early experiences he may learn either to face and solve his problems, or to evade them. Evasion may be manifested by withdrawal, e.g., fearfulness, cowardice, solitariness, neurotic complaints, or by attack, e.g., temper tantrums, aggressiveness, delinquency, egocentricity, etc.

In the school-going age this physical, emotional and social development proceeds in an ever-widening field of formal and informal education. In adolescence the young man or woman is often impatient to break his bonds and become fully independent.

If the family and home are satisfactory, not only will the child be given the necessary nurture and physical freedom to develop his body, but he will also develop the capacity for forming those human relationships which are the essence of a full and mature life. Every child requires the love, support and approval of his mother, his family, and later the community to give him those feelings of self esteem and 'belonging' which are essential to human happiness.

FAILURE OF NORMAL SOCIAL DEVELOPMENT

The optimum soil for the physical, emotional, and social development of the child is provided by the natural home group. In Western society this home group usually consists of mother, father and children. In this and other societies the structure of the group may include related members such as grandparents, uncles, aunts, cousins etc., who may all play important parts in the rearing of children.

Failure of the Natural Home Group. The natural home group may fail to care for the child for one or more reasons:[10]

1. The natural home group may never have been established, e.g. in illegitimacy. Although the definition of illegitimacy varies in different cultures it is true to say that all illegitimate children suffer to a greater or lesser extent.

2. The natural home group may be intact, but not functioning effectively because of economic conditions leading to unemployment of the breadwinner with consequent poverty, or because of chronic illness, incapacity, instability or psychopathy of parent.

3. The natural home group may be broken and therefore not functioning because of absence of one or both parents as a result of death, divorce, hospitalization, imprisonment or desertion, or full-time employment of father or mother away from home. Social calamities such as war, famine and revolution greatly increase the frequency of these disruptions.

This failure of the natural home group may endanger the mother-child relationship previously discussed and may lead to maternal deprivation of the child. The grossest form of this deprivation is that which may occur in 'institutions, residential nurseries and hospitals, where the child often has no one person who cares for him in a personal way and with whom he may feel secure'.[10] Bowlby shows that children under the age of 3 years placed in institutions and deprived of maternal care for a prolonged period may suffer physically, emotionally, mentally and socially, and the damage caused may be severe and irreversible. Although he stresses that not all children from institutions turn out to be 'affectionless psychopaths', the effects on personality growth are usually far-reaching. Goldfarb [11] found institutionalized children to be inferior in intelligence, ability to conceptualize, social maturity, ability to keep rules, feeling guilt on breaking rules, and capacity for forming relationships; and they showed fearfulness, restlessness, inability to concentrate and poor school achievement.

It may be argued that children who are put into institutions as a result of family failure inherit bad genetic traits and that their poor adaptation in later life is due to these hereditary factors. The influence of hereditary factors in producing social maladjustment has been investigated by Theis.[12] She showed that, with hereditary factors held constant as far as possible, 'those children who were brought up in an institution adjusted significantly less well than those who had remained during their first 5 years in their own homes'.

From studies on war orphans and refugees there is considerable evidence that among the many factors which helped to produce disturbances of character, 'rupture of family ties played a fundamental part'.[13]

In addition to the grosser forms of maternal deprivation usually associated with placement of the young child in institutions, there are many other instances of damage done to children by inadequate relationships with a mother or mother substitute.[10] Partial deprivation of the infant may be seen in the relatively mild form where the mother lets her child cry for hours at a stretch because of advice given (often by the attending doctor) that to satisfy the baby's needs would result in 'spoiling him'. In more severe cases the child is more or less wholly rejected by the mother, which may lead to considerable social and emotional mal-adaptation in later life.

Hospitalization of Children. One very common form of maternal and emotional deprivation is associated with the hospitalization of children. Separation from mother, family, familiar toys and household objects comes at a time when all of these are most needed to provide security in a crisis. In hospital the child is handled at infrequent intervals by strange people, who often commit painful assaults upon him and who do not understand or satisfy his basic needs as his mother would.

Bakwin [14, 15] described how infants detained in hospital for long periods failed to gain weight, became apathetic, anorexic, diarrhoeic and febrile, despite an adequate diet and an absence of infection. One striking

case described by him was an infant patient [16] who was admitted to hospital for a minor illness under his care. When the illness seemed to be controlled, the patient was retained in hospital to be discharged when the weight began to increase. After several weeks the weight had decreased to less than birth weight. Despite a thorough investigation no cause for the loss of weight was detected and the infant was sent home with the expectation that it would soon die. Bakwin, however, curious to see the outcome of the illness, visited the home a short while later. To his amazement he found that the infant, back in the care of its loving though none too hygienic mother, was happy and gaining weight rapidly. Several months later it was still thriving.

This need of the young patient in hospital for maternal love was recognized by some of the older paediatricians of the Vienna school. It is reported that one such paediatrician employed a buxom *frau* whose main function was to dispense 'love' at frequent intervals to infants in the ward.

Most modern maternity hospitals separate the babies from their mothers soon after birth. The babies are segregated in nurseries and brought to their mothers at fixed intervals for feeding. At night they are not brought to their mothers at all! One of the most striking features of these maternity homes is the wailing of the unhappy infants in the nursery. On the other hand in those hospitals where the babies sleep with their mothers the absence of crying is striking. When the babies are kept in nurseries they are almost strangers to their mothers on home-coming. This separation is completely unnatural in view of the close association of the mother and child before birth.

Community Disorganization. As a result of the rapid industrialization of South Africa the population as a whole is undergoing a social revolution. The Bantu are most affected by these influences. Although a large number of traditional concepts persist and still have a material effect on the way of life and on the health of children, in the face of Western civilisation many of the old customs and beliefs are being modified. In this changing environment there is a conflict of cultures which gives rise to increased tension and anxiety which is reflected in uncertainty in dealing with the problems of child rearing. This often results in the unnecessary weaning of infants which, coupled with an absence of knowledge of artificial feeding and hygiene, frequently results in serious morbidity. Often the position is aggravated by a lack of mutual understanding between mothers and medical attendants.

In the rapidly-developing industrial areas there is the additional problem of shortage of housing and basic health services. The rapidity with which such amenities as housing, sanitation, food supplies, schools, child welfare services, hospitals, etc., are provided is related to the prevailing social, economic and political climate.

An aspect of social disorganization which is of particular interest in South Africa is the effect of the migrant labour policy on the health of the Bantu. According to Kark and Cassel [17] its 3 main effects on health are: (1) the increasing failure of agriculture in the rural areas with consequent deterioration in nutrition, (2) the constant introduction of venereal disease and tuberculosis into rural communities by men returning from long absences in industrial areas, and (3) the intra-familial tensions resulting from long separations of heads of families. All 3 of these effects must have serious implications for the children in these communities.

The effects of community disorganization upon the health of children are well known. Since children are the most vulnerable group of the community they are the first to suffer in times of social and economic stress. For this reason the infant mortality rate of a community is considered a fair index of its health. In England and Wales in 1950 the differences in infant mortality rate in social classes ranged from 17·9 per 1,000 live births in social class I to 41·1 in social class V.[18] In South Africa no comparable figures are available, but in the City of Cape Town in the year 1952-3 the infant mortality rate of the white population was 21 as compared with 101 for the non-European population.[19]

Other indices of community health are the prevalence of juvenile delinquency and the incidence of illegitimate births. Both of these have increased greatly among the urban Bantu population in recent years.

Even in the presence of community disorganization there is considerable variation in the ability of families to adjust themselves to adverse conditions. The use made of available resources, both in the family and in the community, depends largely on personal factors.

Several writers[20-22] have stressed the importance of maternal efficiency and knowledge in determining the health of children. Almost invariably the deciding factor has been the 'know-how' of the housewife who best uses the resources of family and community. In South Africa this range of efficiency is well demonstrated in Native townships and shack areas, where many of the worst run, but at the same time some of the best run, homes can be found.

Social Pathology resulting from Disablement. Another set of problems arises with handicapped children. Children suffering from cardiac disease, deafness, blindness, orthopaedic disabilities, epilepsy and mental defect are examples. The difficulties of these children not only affect themselves as individuals, but also result in economic, emotional, and social stress in their families. The assistance of the community is essential in the provision of services which will enable these patients to develop as far as possible into normally functioning members of society.

SOCIAL PAEDIATRICS IN PRACTICE

Modern medical writing abounds with such terms as 'man in his environment', 'social medicine', 'comprehensive medicine', 'the natural history of disease', etc., all of which are manifestations of the tendency to adopt a more dynamic and holistic approach.

On the community level there has been a change in the attitude of the leaders and legislators of modern societies from one of giving charity, to that of promoting social welfare. Governments have accepted increasing responsibility for maintaining and promoting the health of children. This function is demonstrated by the enact-

ment of laws to protect children against abuse and exploitation, and to assist them when they are in need of care. Expectant women employed in industry are given assistance which encourages them to refrain from working for several weeks before and after confinement. In some countries family allowances are paid and, in some, nursing mothers are given facilities for feeding their babies at intervals during their working hours. In most countries to-day the tendency is to keep the deprived child in the home by providing assistance to his family rather than placing the child in an institution.

The State too is assuming more and more responsibility for the care of the healthy expectant mother and her infant, and provides these groups with clinical and other services for the promotion of health and the prevention of disease. It subsidizes the institutions necessary for the education of pre-school and school-age children and may also provide health services at these institutions. Gradually too the special facilities required for the education and rehabilitation of handicapped children are being established. Here the emphasis is placed on the maximum development of the child's remaining capacities rather than on his disabilities.

On the personal level there have been significant pointers to a greater recognition of the close relationship between the child's health and the mother's health, both before and after birth. For this reason mothers are given dietary supplements and taught the importance of nutrition during pregnancy and lactation. The hazards of certain infections in pregnancy as causes of congenital abnormalities are now recognized.

A striking development in ante-natal paediatrics is the emotional preparation of the mother, the husband and siblings for the arrival of a new baby.[23, 24]

Although there are obvious technical advantages in having the mother confined in a hospital, certain social and emotional benefits are lost thereby. Some of these deficiencies, however, are being remedied in various hospitals. Jackson [25] states that 'rooming-in' is an arrangement for maternity patients wherein a mother and her newborn are cared for together in the same unit of space. But in addition it 'signifies an attitude in maternal and infant care and a general plan of supportive parental education which are based on the recognition and understanding of the needs of each mother, infant and family. It is a plan to maintain natural mother-infant relationships, to reinforce the potentialities of each mother and infant, and to encourage the family unit'.

Thoms and Wyatt [26] describe the education of the pregnant woman and her husband on the subjects of pregnancy, labour, the newborn and parenthood.

Kahn [27] has described a premature baby unit in a hospital for Africans (Baragwanath) where for reasons of economy the mothers carry out much of the nursing of their babies. This arrangement, however, has the additional advantage that the mother learns how to manage her premature baby with resources which are readily available to her when she returns home. In this way a valuable educational opportunity is exploited.

Spence,[28] Moncrieff and Walton,[29] and Illingworth,[30] also recognize the value of the part which the mother plays in the management of her sick child in hospital. In some hospitals the mother is accommodated in the hospital with her child, in others the mother is given facilities for daily visiting. Thus the mother and her child derive emotional benefit from being together at an anxious time, the mother learns much concerning the present and future management of her child, and the hospital staff gain valuable information about the background of their patients.

In the field of child development the individuality of the child is recognized, and the harmfulness of treating all children as if they were cast in one uniform mould. Gesell and Amatruda [31] stressed the maturation of the central nervous system as the basis of development, and systematized the gradations in different fields of behaviour. Aldrich [32] went on to show that although the underlying needs of infants are the same, the ways in which they want these needs satisfied may be very variable. He illustrated this fact very beautifully by placing 100 newborn infants on a self-demand schedule on discharge from hospital. At one month 61% wanted to be fed 3 hourly, 26% at 4-hour intervals, and 10% at 2-hour intervals. This attitude of respect for the infant's rights as an individual is more fully expounded in his delightfully understanding book *Babies are Human Beings*.[33] Spock, one of Aldrich's colleagues at the Rochester Child Health Project, has brought this more sensitive and tolerant attitude towards child rearing to the public through a very popular book on child care.[34] The futility of expecting too much of the infant is well illustrated by toilet training, where it is shown that infants before the age of 1-1½ years cannot control their bowel actions because their central nervous systems have not yet reached the stage of myelinization necessary for such control. This attitude also stresses the need for giving the child opportunities for exercising his skills as they develop.

In the pre-school period there have also been changes of attitude. The old idea of day nurseries originated from the need for care of toddlers whose mothers had to work. Thanks to the efforts of such people as Susan Isaacs, the needs are recognized for pre-school children to have opportunities of manipulating their bodies and their physical environment, and to learn to cooperate with other children. This educational aspect is particularly necessary in these days of flat dwellings, working mothers and small families. For the school child, too, education has become more human—more dynamic, more functional—as a result of the work of educationalists like John Dewey, A. S. Neil, and many others. Perhaps child psychology has become too 'soft', but at least we are thinking more in terms of what the child requires and not only what the adult would like.

The attitude to sex education is also undergoing a rapid change and efforts are being made to make sex less sinful and unmentionable. It is reasonable to hope that modern children will be better prepared for parenthood and will suffer less from sexual neuroses.

Child Health as a part of Family Health

Two examples are given which illustrate how problems of child health can be perceived in the total context of the family environment.

In the masterly study in which Spence and his team of workers set out to investigate the health problems of

1,000 infants,[35] they found that they were unable to pursue their objects adequately without investigating the families of these infants. Accordingly, the private practitioners, the staff of the local health department, the University teaching department and the parents themselves cooperated closely in this venture.

The policy of the Government Health Centres in South Africa was based [36] upon a comprehensive programme of family health and medical care. In these Health Centres a combined preventive and curative service is provided by teams of doctors, nurses and health educators. The team attempts to uncover and deal with the underlying causes of ill-health in the community. Health education is employed for the better use of such resources as income, housing, home gardens and food supplies. To improve their health the patients are encouraged to utilize all available educational, welfare, medical and nursing services. The health of children receives considerable attention because it is especially susceptible to preventive measures and because Health Centre practice, like general or family practice, is largely concerned with children.

The Health Centre programme for child health begins in pregnancy. During this period the woman is given health-education, preventive and curative services with special reference to the health of her coming child. In suitable cases delivery at home is encouraged. Continuing care is given to mother and child both in the home and at the Centre by the same team of workers. Through repeated contacts during pregnancy, delivery and infancy, both in health and in sickness, an intimate and effective relationship is developed between families and health workers. A measure of the success of this programme was the infant mortality rate of 60-70 per 1,000 in a Native township served by a health centre at a time when the rate in other model Native townships in South Africa stood at 250-300 per 1,000.

This continuing programme persists in older age-groups of children and all efforts are made to cooperate with existing agencies such as nursery schools, schools, hospitals, welfare organizations etc. When necessary and practical the community is encouraged and assisted in organizing their own community centre, play-groups for children, food-buying cooperatives, etc. It is believed that if the service does for a community what education could enable it to do for itself, then that community is harmed. All efforts are therefore made to encourage families to use their own resources to maintain their health and to assist in the care of their sick.

Finally, in the practice of paediatrics it is important to remember that the ultimate responsibility for the care of children rests in the hands of the parents. For this reason health education is directed particularly towards the mother to increase her efficiency in the rearing of children. Education for health, however, is not the prerogative of any single agency. All health workers, and especially family doctors, have great opportunities for promoting the health of children by virtue of the relationship to the families and communities they serve.

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MEDICAL HOUSE (PTY.) LIMITED : REPORT OF THE DIRECTORS

The following Directors' Report was submitted and adopted at the Annual General Meeting of Medical House (Pty.) Limited held on 4 May 1955 at Medical House, 35 Wale Street, Cape Town.

To the Shareholders: Your Directors have pleasure in submitting their Report together with the Audited Accounts for the financial year ended 31 December 1954.

1. The Company's authorized and issued Capital remains unchanged at 5,100 shares of £1 each fully paid.
2. The nett profit of your Company for the year ended 31 December 1954, amounts to £92 14s. 5d. which, added to the balance brought forward from the previous year, leaves a credit balance of £365 2s. 7d. to be carried forward to the following year.
3. The practice of the past in paying no Directors fees has been adhered to.
4. *Directorate.* During the financial year under review no changes took place in the Directorate of your Company.

Signed on behalf of the Board
J. S. du Toit

HEALTH IN THE UNION: STATEMENT BY MINISTER IN THE SENATE

FROM A PARLIAMENTARY CORRESPONDENT

Tuberculosis, poliomyelitis, mental health and nutritional aspects of health were discussed by the Minister of Health in the recent comprehensive statement that he made in the Senate in moving that his policy be reviewed.

As in the few months since taking over the portfolio he had not had the opportunity even of considering any great change of policy, he had decided to continue that of his predecessor, the late Dr. Karl Bremer, 'built up on experience of previous Ministers of Health, he said.

Tuberculosis still remained the most important health problem in the Union. Its effect on the country's economy and inadequate labour resources could be gauged from the fact that about 80,000 non-Europeans were estimated to suffer from the disease and annually 15,000 died from it.

Approximately 76 per cent of the deaths from tuberculosis among Coloured persons and Asiatics occurred below the age of 40, and 54 per cent between the ages of 20 and 59. Of the European deaths 62 per cent were in the 20-59 age-group. In the 15-34 age-group well over 50 per cent of deaths of Coloured persons from all causes was due to tuberculosis and well over 30 per cent of deaths of Asiatics. Though corresponding statistics of Natives were not available, there was every reason to believe that they would certainly be no better. Thus a large percentage of deaths from this disease occurred during the most productive years.

The serious shortage of accommodation for tuberculosis patients had been partly overcome by using all available resources, including unused military camps. The South African National Tuberculosis Association had rendered valuable assistance by establishing settlements for cases that did not require immediate hospitalization. And mission hospital authorities had been encouraged, through Government subsidies, to provide additional accommodation for tuberculosis patients. The number of beds now available through governmental and private institutions was 9,400, representing an increase of 3,200 since last year.

'It is, however, pleasing to note', the Minister said, 'that the tuberculosis death rate showed a considerable decrease between 1948 and 1952. The European death rate fell from 30·8 per 100,000 to 14·9; Asiatic from 142·8 to 57·1, and Coloured from 452·9 to 319·3. This decrease is a world phenomenon and is due mainly to the application of the new treatment with streptomycin and PAS. Since 1952 the latest drug, INH (Isonicotinic hydrazide) has also been used with great success.'

With the advent of these drugs a new approach to the control of the disease had been made possible. The health of the patient could be restored within a reasonable time through hospital treatment, to a degree where further treatment could safely be given at home, especially if cases were diagnosed in an early stage. Local authorities were encouraged to extend this scheme of domiciliary treatment throughout the Union. Under it, suitable patients received medical and nursing attention in their homes, and supplementary food could be provided when necessary for building up resistance.

Apart from capital outlay on hospital accommodation, the cost of treating a patient in hospital varied from £1 to £2 a day. So the economy of treating selected patients in their homes could be appreciated. The death rate was showing a remarkable decline in the areas in which domiciliary treatment had been introduced. Its success depended to a certain degree on the extent to which commercial and industrial concerns co-operated—for example, by affording employees who suffer from non-infectious tuberculosis and were fit to work an opportunity of having the treatment.

Industrialists in some cities were co-operating by granting their employees leave on full pay for the purpose of receiving treatment, assigning to them less tiring duties during periods of treatment, and supplying supplementary diets such as milk or soup until they recovered completely. It was hoped that with the extension of this policy the Department of Health would receive the co-operation of employers in the country districts, especially farmers.

A conference of many representatives of local authorities, held in Cape Town at the beginning of May, was informed of the results obtained in tests carried out over the past 2 years with BCG (Bacillus Calmette Guérin) vaccine in the prevention of tuberculosis. The results were so convincing that local authorities were now confidently advised to use BCG vaccination as an effective measure.

An additional £500,000 has been placed on the Department's Vote for 1955-56 to increase the funds allocated for combating tuberculosis, in order to implement the policy of domiciliary treatment. This policy was confidently expected to bring about a steady decline in the incidence of the disease within the foreseeable future.

For the success of a large-scale programme, however, the earliest possible detection was essential. Nine more mobile X-ray units had therefore been ordered, bringing the total number to 13. These would still not meet all the country's requirements; but the extension of the service, which was particularly for case-finding in the country districts, was limited by the number of professional and technical personnel available.

HOSPITALIZATION DEMANDS

The Provincial Administrations, perturbed by the overwhelming and increasing demands for hospitalization of general cases, and faced with a serious shortage of beds and the relatively high costs of hospitalization, had asked successive Ministers of Health to be allowed to take over, at their own cost, the responsibility for establishing and controlling out-patient and district nursing services, which they regarded as an integral part of their hospital services. They considered this would contribute materially towards reducing the demands for hospitalization. Mr. Naudé said he presided at a recent meeting in Cape Town of representatives of his department and the four administrations, at which he agreed in principle to the change. It was now being negotiated.

The provinces would assume responsibility for those services in areas served by provincial hospitals, leaving the Union Health Department to provide the services in the remaining areas. This would enable the department and the local authorities to concentrate more on preventive health services; and the department would be able to provide more intensive personal health services in areas not served by provincial hospitals.

The development of out-patient and district nursing services by the provincial administrations was expected to eliminate overlapping of services and to reduce expenditure on hospitalization.

THE POLIOMYELITIS OUTBREAK

The Minister gave considerable information about the recent poliomyelitis outbreak, the Salk vaccine and the disease which affected 79 nurses at the Addington Hospital, Durban—most of which he had previously given in the House of Assembly, as summarised in these columns on 30 April and 14 May. As additional information, he said that in the present outbreak of poliomyelitis 1,389 cases were notified up to the week ending 28 April, a week in which only 18 cases were notified. The infection had been mainly confined to Natal and the Transvaal. In the Cape and the Orange Free State the disease had so far occurred in little more than what might be termed its usual sporadic form.

The Government had now set aside £10,000 in each of two successive financial years as contributions towards the costs of the Poliomyelitis Research Foundation Laboratory. Further contributions by the Government towards its maintenance costs would be determined in relation to the Foundation's needs.

In the Durban outbreak of the disease 75 per cent of the cases had made a complete recovery without impairment of function, 20 per cent had been left with minor afflictions and in only 5 per cent of the cases had the impairment been severe. Four cases were fatal.

It had been established beyond any doubt that the disease which affected nurses at Addington Hospital was not poliomyelitis. None of the cases had been fatal, and in the majority progressive improvement had been maintained with no permanent defect. Although the exact causation was still in doubt investigations had excluded many infectious diseases and intoxications, and the field had thus been narrowed down significantly.

A few cases with similar symptoms seemed to have occurred outside the Addington Hospital. Investigations into the source and nature of the disease were continuing, the Department of

Health having co-operated with the Poliomyelitis Research Foundation in establishing a temporary research unit in Durban.

COMBATING BILHARZIA

The Minister hoped that the department's efforts to combat bilharzia would eventually be as successful as those which had brought malaria under complete control. The department was taking measures in conjunction with the Council for Scientific and Industrial Research and the Transvaal Provincial Administration's Division of Flora and Fauna. Two experts on various aspects of this disease and its snail vectors have been stationed in the Nelspruit area and a third would shortly begin duty at Tzaneen.

MENTAL ILLNESS

The necessity for admitting mentally disordered or defective persons to institutions where specialized medical and nursing services were provided was readily appreciated, but there was unfortunately a serious lack of accommodation and a shortage of nursing personnel at the institutions.

The department's major works programme for the present financial year provided for expenditure on additional accommodation at the Umgeni-Waterfall Institution, Howick, the Alexandra Institution, Maitland, and the Weskoppies Hospital, Pretoria. Completion of the programme would make accommodation available for an additional 2,200 patients.

BETTER NUTRITION THE ANSWER

Mr. Naudé said there were indications that better nutrition was the most promising line of attack for killer diseases related to body performance, such as diseases of the heart, circulatory system and nervous system, and cancer and tuberculosis.

He said: 'The average Union citizen is fairly well fed. Such improvement as is necessary is more in the quality of the diet than in the quantity. If we compare the dietary scales in the Union with the ideal and with those of some Western countries, there is no doubt that we consume too much grain and sugar (that is, carbohydrates) in relation to such protective foods as milk, cheese, fish, meat, eggs, fruit and vegetables.' The emphasis should be on increased provision for proteins, vitamins and minerals. Fortunately there were large untapped sources of these products that could be explored. Through the use of large quantities of enriched bread, thousands of tons of milk powder that were previously destroyed, exported or fed back to animals, as well as groundnut proteins, had now been included in the national diet. The prospects for further intensification in this direction were good.

The biggest source of protein supply, the 500,000 tons of fresh pilchards and maasbankers that were annually converted into animal food or exported remained virtually untouched. A special technical committee under the Chairmanship of the Secretary for Nutrition would explore the steps that could be taken to make a large additional tonnage of fish available for human consumption. If only a relatively small tonnage of the considerable quantity landed could be made available at an economic price the protein problem could be solved.

Instead of fruit and vegetables being a staple diet used extensively in every household, they were more often than not looked upon as a luxury. But they were so important for improving the balance of the nation's diet that a solution to the problem of marketing and distributing perishable farm products had to be found. The Department of Nutrition was carrying out experimental work in Pretoria to this end.

The Government had so enriched brown bread and reduced its price that the consumer who specified enriched bread obtained, free of charge, proteins in the form of ground-nuts and milk powder, minerals supplied through the addition of calcium, and fat.

'I am very glad that the public has responded magnificiently', the Minister observed. 'When the Bremer bread was introduced in June 1952, 80 per cent of the bread consumption in the Union was white. Now only 65 per cent is white. The public will be well advised to continue to improve the quality of its diet, and its health, through the increased protein and mineral intake that is gained in the consumption of enriched bread. I am very glad to state that the Bremer bread is used more and more in the homes of the lower income groups and by non-Europeans.'

The scope for enriching mealie-meal was extremely limited because it was white and of a sensitive flavour, but research work in this field was still proceeding. The department's enriching policy differed materially from that of many countries in which only synthetic vitamins were added. For this reason the Government restricted the production of bakers' cones, which are highly refined mealie-meal.

In mentioning refined foods, the Minister said there was an increased tendency on the public's part to fall for the high-powered advertisements for foods, especially breakfast foods, sold at prices far higher than those of natural, more wholesome oatmeal, mealie-meal or kaffir-corn meal. If households took a more realistic view of food values and costs they would lower their cost of living as well as improve their diets.

MINISTER OF HEALTH REPLIES TO THE DEBATE

FROM A PARLIAMENTARY CORRESPONDENT

The Government's policy was that Native doctors should be available to treat their own people, the Minister of Health, Mr. J. F. Naudé, said in the Senate in his reply on 11 May to the debate on his departmental policy.

He said in the reply that, as Native doctors qualified, every effort should be made to make it possible for them to do their job thoroughly. He assumed it would be found possible to provide for their additional year of internship.

'When these doctors have qualified—and I take it they will practice in the Native areas and the reserves—they will, fortunately, be able to dispense their own medicine, as doctors do in country towns', the Minister said.

Poliomyelitis

Mass immunization against poliomyelitis could be started as soon as the order was given: the Poliomyelitis Research Foundation Laboratory had sufficient vaccine for that. The Foundation would have to have more monkeys and apes whose kidneys could be removed for purposes of preparing the vaccine, but this was not expected to be a difficulty.

In reply to senators who had suggested that vaccine should be provided free of charge, Mr. Naudé said he had been advised that a sub-economic fee of, say, 6d. a dose should be charged. This would ensure that the vaccine would not be wasted. The proceeds would not be paid to the Government, but to the Foundation, to build up its funds.

He had been told that the disease which had affected nurses in the Addington Hospital, Durban, was an unusual virus infection. It had been investigated from that point of view, and from the point of view that it might be due to some chemical. Even the whitewash used for the hospital walls had been examined, but the experts had still not been able to ascertain the cause of the disease. The inquiry was still continuing.

Tuberculosis

The Department of Health was strongly in favour of the pasteurization of milk as a precaution against tuberculosis. Unfortunately it could not be carried out throughout the country, but the public was advised to procure it in the interests of its health if it possibly could. The sterilization of milk which had recently been introduced in the Union also gave great promise. It eliminated the tuberculosis bacillus.

Tuberculosis patients undergoing domiciliary treatment could receive supplementary food where necessary, and its cost would be subsidized to the extent of seven-eighths.

Mental Hospitals

The problem of accommodation for mental patients was a very serious one on which the Commissioner for Mental Hygiene, Dr. I. R. Vermooten, had made a special report, which was being

submitted to the Cabinet. Many patients had to be locked up in prison on orders of the courts of law.

The conditions in Native mental homes were appalling. He had visited two since taking office. He considered that, whenever possible, the services of Bantu nurses should be used to assist in these homes.

Cancer

The Cancer Research Association was going into the possibility of making cancer a notifiable disease. The department was in communication with the National Cancer Association and with the United Municipal Executive, which had referred the question to the Medical Officers of Health Group of the South African Medical Association.

There was no legal difficulty about making the disease notifiable: that step had been considered by the department for some time. The difficulty lay in the fact that there were many kinds of cancer. Until the cause of a case was known and the part of the body in which it occurred, so that the information could be recorded statistically, notification would be of little assistance.

The Medical Research Commission, which was considering the whole question of co-ordinating and fostering medical research—including cancer research—to make it as effective as possible, would report in the course of this year.

Malaria

The Minister expressed his appreciation of what the Department had done in combating malaria. In the Northern Transvaal, Natal and Zululand, where it used to be extremely rife, it had practically disappeared. In spite of the heavy rains this year, the incidence was not high. There were cases, however, in the Transvaal, Natal and the Orange River area.

He paid tribute to Dr. D. H. S. Annecke, who deserved much of the credit for the eradication of malaria. [Cheers.] He had now been placed in charge of research into bilharzia and was operating in the Northern Transvaal on a bursary, with staff who had been placed at his disposal by the Council for Scientific and Industrial Research.

Venereal Disease

Fortunately venereal diseases were diminishing greatly, in South Africa, as well as elsewhere, in consequence of the new remedies that were being applied. He was informed that one injection of penicillin was effective in rendering the disease non-infectious. The patient might not be completely well, but he would be prevented from infecting other people. Young people should be taught the real dangers that this disease threatened.

Dispensing by Doctors

It would be very difficult to have a proper examination into allegations about drugs provided by doctors. The department had neither the inspectors nor the means. This, however, would receive attention.

IN MEMORIAM

ERNEST FREDERIC WILLIAM MOON, L.R.C.P. AND S. (EDIN.), L.F.P.S. (GLASG.).

The death took place at his home at Retreat, Cape, last month of Dr. E. F. W. Moon, aged 86 years.

Dr. E. F. W. Moon

Ernest Frederic William Moon was born in Dungannon, Co. Tyrone, Northern Ireland, in 1869, and educated at Dungannon Royal School and at the University of Glasgow, where he was awarded the gold medal for surgery. After a spell in general practice, he became attached to the Mental Hospital at Derby Borough, England, and thus embarked upon the speciality which he served for the rest of his life.

Returning to Ireland, he became attached to the Mental Hospital at Omagh, and then, finding the climate unsuitable for his health, he decided to emigrate, accepting a post in the Prisons Department of the Cape Colonial Government in 1898. It is said that he thought he had accepted a post in Tokyo, whereas it was actually at Tokai in the Cape Peninsula. Here he remained until September, 1902, when he became Relieving Medical Officer for the Colony, serving in Mossel Bay and at the Roeland Street Gaol, the Old Somerset Hospital and the Valkenberg Mental Hospital in Cape Town. During this time Dr. Moon met Nurse Ethel Taylor of the Rondebosch Hospital, whom he married in England in 1906.

In 1904 he was appointed Senior Medical Officer on Robben Island, where he remained until the Mental Hospital was closed there in 1921. In addition to mental cases he had charge of lepers and the military and civilian families on the Island. Thereafter he was Physician Superintendent of the Mental Hospital at Port Alfred (1921-1923) and Grahamstown (1923-1930), and from this latter post he retired and settled in general practice at Retreat in the Cape Peninsula. He rapidly worked up a practice amongst the poorer people, notably Coloureds, and on the Cape Flats in the vicinity of Retreat and Blaauwvlei. During the Second World War he suffered an attack of coronary thrombosis, and later took a partner with the intention of retiring once more, but he lived so much for his work that he was unable to do so completely.

A keen sportsman, he played many sports as a young man—cricket, tennis, hockey (as a foundation member of Nomads Club) and golf (as a foundation member of Westlake Club). He was a keen follower of rugby and only stopped going to Newlands at the age of 83, when he could no longer distinguish the different players on the field.

In the mental service his ability as an organizer, strict but well-liked by his staff, has remained a cherished memory, but it was as a general practitioner after his retirement that his greatest qualities were shown to the full. His rich Irish humour, his wisdom and understanding of his fellow men, his lovable nature and, above all, his overpowering love of humanity, were qualities which endeared him to his patients. At his funeral there were not only nurses who had served under him 30 years previously, but many elderly Coloured patients who had come to pay their last respects to The Doctor.

Dr. Moon is survived by a widow, 2 daughters and a grandson. *A former colleague in the mental service writes:* Dr. Moon's appointment as Senior Medical Officer on Robben Island in 1904 was the beginning of his long association with the mental hospital service, as a result of which he came to command the love and respect of both patients and staff in the 3 institutions in which he served, namely Robben Island, Port Alfred and Grahamstown. In each of these hospitals, and in a number of others, one still hears quotations from the sayings of the much-beloved Dr. Moon, which is surely a great tribute to his work, when one considers that at the time of his death he had been retired for over 23 years.

Perhaps the most frequently resuscitated saying was one with which he was wont to terminate his professional interviews: 'You will do this and so you will'—a phrase which any ex-Robben Island or Grahamstown staff-member would immediately associate with his old chief and friend, Dr. Moon. He, on his part, never forgot his old patients, nor the members of the staff who served under him. Four weeks before his own passing Dr. Moon was present to pay his respects at the funeral of a staff-member who had served under him. We like to think of him as one of the 'old brigade', whose work has laid such a sound foundation for the mental health services of our country.

PASSING EVENTS : IN DIE VERBYGAAN

Medical Christian Fellowship. A meeting has been arranged for Thursday, 26 May, at 8 p.m. in the Physiology Lecture Theatre, University of Cape Town Medical School on the subject of *Alcoholism.* As speakers, Dr. A. Simpson Wells and Rev. A. J. T. Cook have been invited. The meeting is open to all interested practitioners and students.

* * *

The Industrial Nurses' Study Group of the South African Nurses' Association has been invited to send papers for presentation at the International Medical Congress on Industrial Medicine, which is to be held in Helsinki in 1957.

* * *

We regret to announce the death at Queenstown, C.P., of Esther, wife of Dr. Rudolph Schaffer of Queenstown, after a short illness.

Dr. P. J. H. Wagner, East London, writes: 'I and thousands more have lost a true and loyal friend and we shall miss her in every sphere of life, more especially in the medical world where she will be remembered for many decades to come. We were drawn to her as she was a most pleasant companion, a vivacious entertainer and a brilliant conversationalist with an acute sense of humour. She was a very hard worker, and many charitable organizations will miss her tremendously. Her home was always open to children and there are hundreds of them today who will remember her with loving affection. Esther and Rudolph were the prime movers in bringing about the very high standard of musical entertainment which Queenstown enjoys. To her sorrowing husband and her son Justine we offer our very deepest sympathy'.

Professor Isidore Gordon, M.B., Ch.B., professor of pathology at the Medical School of the University of Natal, has been appointed dean-elect of the University's non-European Medical School. He succeeds Dr. G. W. Gale, who left recently to take up the professorship of preventive medicine at the Medical School at Kampala, Uganda. Professor Gordon is 42.

* * *

Dr. Robert Slome, M.D. (Cape), M.R.C.P., has returned from England, where he did research work at Guy's Hospital, and has commenced practice as a Specialist Physician at 804 Dumbarton House, Cape Town. Telephone: rooms 2-0762, residence 4-2713.

* * *

Cape Town Group of the South African Society of Medical Women. A General Meeting of the above Group will be held in the Physiology Lecture Theatre at the Medical School, Mowbray (telephone 5-2455) on Friday, 10 June, at 8.15 p.m. Brief discussions will be held on the following subjects: *The Shortage of Maternity Beds, Lack of Provision for Chronic Sick* and *Methods of Ensuring Early Treatment of Congenital Defects.* All medical women are welcome.

* * *

The Northern Areas Division of the Cape Western Branch held their Annual Dinner at the Cambridge Hotel, Milnerton, Cape, on 6 May, 1955. Dr. M. Hoffman presided, and the guests included the Minister of Health (Mr. J. F. Naudé, M.P.), the Chairman of Federal Council (Dr. A. W. S. Sichel) and the Chairman of the Cape Western Branch (Mr. M. Cole Rous).

BOOKS RECEIVED : BOEKE ONTVANG

Stammer is not Nerves (Stammering and its Cure). By H. V. Hemery, L.R.A.M. Pp. 67 + xv with 9 illustrations. London: The School for Functional Speech Disability. 1955.

Fourth Annual Report on Stress. By Hans Selye, M.D., Ph.D. (Prague), D.Sc. (McGill), F.R.S. (Canada), F.I.C.S. (Hon.), and Gunnar Heuser, M.D. (Cologne), and Contributors. Pp. 749. Montreal: Acta, Inc. Medical Publishers. 1954.

Year Book of Urology. 1954-55 Series. Edited by W. W. Scott, M.D., Ph.D. Pp. 372 with 83 figures. $6.0 Chicago: Year Book Publishers, Inc. 1955.

Illustrated Practical Nursing Procedures for Hospital Assistants. By Josephine Scott, S.R.N., S.C.M., S.R.M.N. Pp. 118 + ix with 64 illustrations. 15s. London: William Heinemann Medical Books Ltd. 1955.

Doctor against Witchdoctor. By E. W. Doell. Pp. 216 with illustrations. 15s. London: Christopher Johnson Publishers Ltd. 1955.

Surgical Nursing. By Eldridge L. Eliason, A.B., M.D., SC.D., F.A.C.S., L. Kraeer Ferguson, A.B., M.D., F.A.C.S. and Lillian A. Sholtis, R.N., B.S., M.S. Tenth Edition. Pp. 754 + xxix with 329 illustrations. 40s. Philadelphia and Montreal: J. B. Lippincott Company. 1955.

Teaching Medical and Surgical Nursing. By Jane Sherburn Bragdon, R.N., B.S. and Lillian A. Sholtis, R.N., B.S., M.S. Pp. 70 + vii. 16s. Philadelphia and Montreal: J. B. Lippincott Company. 1955.

Essentials of Medicine. The Art and Science of Medical Nursing. By Charles Phillips Emerson, Jr., A.B., M.D. and Jane Sherburn Bragdon, R.N., B.S. Seventeenth Edition. Pp. 922 + xxii with 268 illustrations. 40s. Philadelphia and Montreal: J. B. Lippincott Company. 1955.

Virus and Rickettsial Diseases. By S. P. Bedson, M.D., D.Sc., F.R.C.P., F.R.S., A. W. Downie, D.Sc., M.D., F. O. MacCallum, B.Sc., M.D. and C. H. Stuart-Harris, M.D., F.R.C.P. Second Edition. Pp. 406 + viii with 34 illustrations. 30s. London: Edward Arnold (Publishers) Ltd. 1955.

Midwifery. By Ten Teachers under the direction of Frederick W. Roques, M.D., M.Chir., F.R.C.S., F.R.C.O.G. and edited by Frederick W. Roques, *et al.* Ninth Edition. Pp. 607 + viii with 249 illustrations. 32s. 6d. London: Edward Arnold (Publishers) Ltd. 1955.

Medical Problems of Old Age. By A. N. Exton-Smith, M.A., M.D. (Cantab.), M.R.C.P. Pp. 331 with 17 illustrations. 30s. Bristol: John Wright & Sons Ltd. 1955.

Venae Pulmonales Met Abnormale Loop. Deur Dr. J. F. de Vos. Bl. 142, met 19 illustrasies. Geb. f. 12.50. Assen: Van Gorcum & Comp. N.V.

Circulatietijden Bij Kinderen Met Aangeboren Hartgebreken. Bepaald met Behulp van Kleurstofiniectie. Deur Dr. H. Beekhuis. Bl. 121, met 29 illustrasies. Geb. f. 11.00. Assen: Van Gorcum & Comp. N.V. 1955.

The Lung. Clinical Physiology and Pulmonary Function Tests (Based on the 1954 Beaumont Lecture). By Julius H. Comroe, Jr., M.D., *et al.* Pp. 219 + viii, with 57 illustrations. $5.50. Chicago: The Year Book Publishers Inc. 1955.

Garrison and Morton's Medical Bibliography. An Annotated Check-List of Texts Illustrating the History of Medicine. By Leslie T. Morton. Second Edition. Pp. 655 + xiii. £5 5s. London: Grafton & Co. 1954.

British Obstetric and Gynaecological Practice. Edited by Sir Eardley Holland, M.D. (Lond.), F.R.C.P., F.R.C.S., F.R.C.O.G. and Aleck Bourne, M.A., M.B., B.Ch. (Cantab.), F.R.C.S., F.R.C.O.G. Pp. 1166 + xiv, with 319 illustrations. 115s. London: William Heinemann Medical Books Ltd. 1955.

Any Wife or any Husband. A Book for Couples who have met Sexual Difficulties and for Doctors. By Medica (Dr. Joan Graham). Second Edition. Pp. 144 + xi. 10s. London: William Heinemann Medical Books Ltd. 1955.

Antibiotics Annual 1954-1955. Proceedings of the Second Annual Symposium on Antibiotics. Edited by Henry Welch, Ph.D. and Félix Marti-Ibánez, M.D. Pp. 1154 + ix, with illustrations. New York: Medical Encyclopedia, Inc. 1955.

Textbook of Gynaecology. By J. H. Peel, M.A., B.M., B.Ch. (Oxon.), F.R.C.S., F.R.C.O.G. Fourth Edition. Pp. 490 + xv, with 206 illustrations. 27s. 6d. London: William Heinemann Medical Books Ltd. 1955.

Expert Committee on Drugs Liable to Produce Addiction. Fifth Report World Health Organization Technical Report Series No. 95. Pp. 16. 1s. 9d. Geneva: World Health Organization. 1955.

Diseases of Infancy and Childhood. By Wilfred Sheldon, C.V.O., M.D. (Lond.), F.R.C.P. (Lond.). Seventh Edition. Pp. 804 + x, with 212 illustrations. 50s. London: J. & A. Churchill Ltd. 1955.

The Diabetic Life. Its Control by Diet and Insulin. By R. D. Lawrence, M.A., M.D., F.R.C.P. (London). Fifteenth Edition. Pp. 228 + xii, with 19 illustrations. 12s. 6d. London: J. & A. Churchill Ltd. 1955.

CORRESPONDENCE : BRIEWERUBRIEK

A SENIOR PRACTITIONER

To the Editor: In the article[1] in the *Journal* of 23 April about the late Dr. G. K. Moberly it was stated that 'as far as can be ascertained'—he was the senior practitioner on the register in South Africa. I claim that honour for my father, Dr. T. Mulock-Bentley of 30 Princess Alice Avenue, Durban. Today he enters his 90th year and is a remarkable man for his age—in full possession of all his faculties, walks without a stick, reads without glasses, drives his own car and plays golf and bowls.

Dr. Mulock-Bentley was born in Dublin on 1 May 1866, qualified in 1888, and the same year he came to South Africa to join the late Dr. F. N. Blood in practice at Vrede, in the then Orange Free State Republic. During the Anglo-Boer War he served in the British Forces. During the First World War he was again on active service. He left Vrede in 1925 and practised in Durban up to the outbreak of the second World War, when he again donned uniform as examining Medical Officer for recruits in Durban.

I should be interested to hear of a more senior practitioner.

P.O. Box 34 T. E. Mulock-Bentley
Gingindhlovu,
Zululand
1 May 1955

1. In Memoriam (1955): S. Afr. Med. J., **29**, 393.

HYPNOSIS

To the Editor: With the prominence given to hypnosis in the lay press, and with the recent announcement that the British Medical Association has given its sanction and encouragement to its use in medicine, I think it is time that the Medical Association of South Africa adopt a similar attitude to this very valuable adjunct to medicine.

Those of us who have used it in our practices—and all of us in some mild way use suggestion as a form of therapy—realize its undoubted value to humanity. Its application in almost every branch of medicine has been so strongly established that it does not need a lesser light like myself to stress its values.

May I, however, strike a note of warning. The ability to hypnotize lies in the hands of all of us, though some are more able than others—as equally everyone can paint, but not all are truly painters—but its full application requires not only careful and intensive study of the Soma or body, but also an understanding of the Psyche, and here the practitioner, as in other specialized forms of medicine, must realise his limitations.

And this brings me to the lay-hypnotist, who by unhealthy stimuli can harm his subject, and by the public performance of hypnotism can bring such a valuable therapeutic tool into disrepute. The time has come when this should be stopped, and the medical profession use this wonderful and age-old method of treatment for the betterment of man.

There is still much that we do not know about the mind and its potentialities, and I am sure that hypnosis will be applied still more widely in future medicine. This will need study, investigation and research in our medical schools. Why not start now, and place this powerful adjunct to medicine in its rightful, ethical place, rather than leave it in the hands of charlatans, to abuse, misuse and maltreat?

656/8 Stuttafords Buildings M. Herman
63 St. George's Street
Cape Town
6 May 1955

SOCIETY FOR HUMAN AND ANIMAL MYCOLOGY

To the Editor: The International Society for Human and Animal Mycology was founded on 6 July 1954 by a group of scientists of 10 different nations assembled on the occasion of the 8th Congress of Botany.

The Committee of the Society is constituted as follows: *President*—P. Redaelli (Milan), *Vice-Presidents*—C. W. Emmons (Bethesda), G. T. Ainsworth (Exeter), P. Negroni (Buenos Aires), G. Segrétain (Paris), *General Secretary*—R. Vanbreuseghem (Antwerp).

The objects of the Society are: to bring together qualified persons interested in the study of fungi living on humans and animals; to encourage the formation of regional groups of these persons; to organize meetings of the members of the Society on the occasion of International Congresses; to publish, as soon as possible, a bulletin, devoted to human and animal mycology.

All those who wish to become members of the International Society for Human and Animal Mycology are invited to send their request for admission to the General Secretary, giving details of their qualifications together with a list of their scientific publications. The annual subscription has been fixed at 3 dollars, account No. 133,700 of the General Secretary of the Society, at the Banque d'Anvers, Antwerp, Belgium.

(Prof. Dr.) R. Vanbreuseghem
International Society for Human and Animal Mycology *General Secretary*
Institut de Médecine Tropicale
155 Rue Nationale
Antwerp, Belgium
5 May 1955

THE SWART REPORT

To the Editor: I am in entire agreement with the sentiments expressed by *Arme Ou* in the *Journal* of 30 April.

It must be pointed out, however, that the Sick Fund troubles that we have are all part of a general pattern in our profession, which has been developing during the last 10-15 years, and it will not be righted until certain rather drastic changes have been made in the whole set-up to bring about the following:

1. A Medical Council consisting of a two-thirds majority of private practitioners, under a President who may be appointed by the Minister but must be a private practitioner and will hold office for a maximum continuous period of 3 years. (Any group that becomes a permanency is inclined to become either dictatorial or just stagnant.)
2. A real strong-kneed Federal Council of the Association. Medals and banquets are all good and necessary but in the meanwhile the profession is taken over by bureaucracy and the laity.

Can anyone imagine the Law Society being run by a majority of magistrates, prosecutors and lay people?

Liberty
6 May 1955

AN APPEAL

To the Editor: Recently an overly enthusiastic janitor burned a number of my original manuscripts and research publications, with the result that I now have no copies of a considerable portion of my work.

I wonder if I could make an appeal to my friends in South Africa who may have copies of these publications to write to me telling me which of them they might be willing to return to me again. The papers of which I am particularly anxious to have copies are:

H. leRiche (1940): *Physique and Nutrition*, South African Council for Educational and Social Research. Monograph of 158 pages. Financed by Carnegie Corporation. Pretoria: van Schaik.

H. leRiche (1943): *A Health Survey of African Children in Alexandra Township* (3,510 cases). Financed by University of the Witwatersrand. Johannesburg: Witwatersrand University Press.

H. leRiche (1944): *A Somatometric Study of South African Bantu School Children* (6,443 cases). Manpower, Vol. 3, pp. 9-49. (Part of a Study on Nutrition and Health of Bantu School Children, with Dr. S. L. Kark.)

and any others which may be available, especially those published before 1950.

We are looking forward in Canada to seeing Dr. Tonkin at the combined British Medical Association and Canadian Medical Association Meeting which is being held in Toronto on 20-24 June, and we hope that he, and any other South African colleagues who may be coming, will have a grand time while they are in Canada.

W. Harding leRiche
Physicians' Services Inc. *Research Medical Officer*
2221 Yonge Street
Toronto 7, Canada
29 April 1955